IN THE CLAIMS:

Claim 1. (Currently Amended): A microscope for viewing samples ~~in~~ stereoscopically ~~and in~~ or compoundly ~~optical images in transmitted light brightfield, and reflected light fluorescence~~, said microscope comprising:

a stereo objective;

a compound objective;

an objective housing ~~carrier with automatic shift~~, said objective housing ~~carrying~~ holding said stereo objective and said compound objective, said objective housing enabled to swap said stereo objective with said compound objective or said compound objective with said stereo objective in a viewing path of the microscope;

a ~~stereo~~ microscope body ~~that is shiftable about an axis to be placed properly over the stereo objective or the compound objective~~;

a ~~transmitted~~ light ~~base~~ for providing brightfield illumination ~~for transmitted light brightfield~~ for use with both said stereo and compound objectives; and

a light for providing fluorescent illumination for use with both said stereo and compound objectives

~~an automated prism shift mechanism, disposed in an optical path, to create binocular images from a single axis compound image created~~.

Claims 2 - 6 (Withdrawn).

Claim 7. (New) The microscope of claim 1 including:

a second compound objective; wherein

said objective housing is enabled to swap any of the stereo objective, the first compound objective, or the second compound objective in a viewing path of the microscope.

Claim 8. (New) The microscope of claim 1, wherein said objective housing swaps said objectives in an automated fashion.

Claim 9. (New) The microscope of claim 1, further including a prism mechanism capable of being positioned in an automated fashion in the path of a single-axis compound image for creating binocular images from said single-axis compound image.

Claim 10. (New) An optical microscope system that permits three optical viewing techniques, said system comprising: means for viewing samples in one of three dimensions, two dimensions, and macro; further wherein

all three optical viewing techniques are capable of using either light for fluorescent illumination or light for brightfield illumination.

Claim 11. (New) The optical system as defined by claim 10, wherein said means for viewing comprises one stereoscopic and two compound objectives.

Claim 12. (New) The optical system as defined by claim 11, further comprising a transmitted light base for providing illumination for transmitted light brightfield for said stereo and compound objectives.

Claim 13. (New) The optical system as defined by claim 10, further comprising means, disposed in an optical path of the system, for creating binocular images from a single axis compound image.

Claim 14. (New) The optical system as defined by claim 11, further comprising a stereo microscope body that is shiftable about an axis in a position that is over the stereo objective or the compound objectives.

Claim 15. (New) An optical microscope system that permits at least two optical viewing techniques, said optical viewing techniques comprising: means for viewing samples in three dimensions and means for viewing samples in two dimensions;

wherein both at least two optical viewing techniques are capable of using either light for fluorescent illumination or light for brightfield illumination.

Claim 16. (New) The optical system as defined by claim 15, wherein said means for viewing in three dimensions comprises one stereoscopic objective and said means for viewing in two dimensions comprises at least one compound objective.

Claim 17. (New) The optical system as defined by claim 16, further comprising a transmitted light base for providing said illumination for transmitted light brightfield for said stereo and compound objectives.

Claim 18. (New) The optical system as defined by claim 15, further comprising means, disposed in an optical path of the system, for creating binocular images from a single axis compound image.

Claim 19. (New) The optical system as defined by claim 16, further comprising a stereo microscope body that is shiftable about an axis in a position that is over said stereo objective or said at least one compound objective.

Claim 20. (New) The microscope of claim 7, wherein said objective housing swaps said objectives in an automated fashion.